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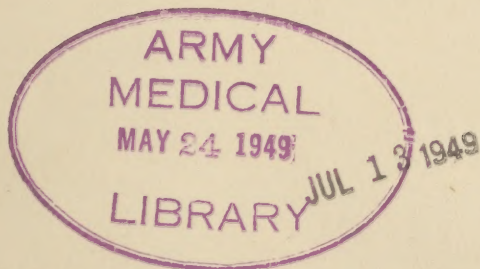
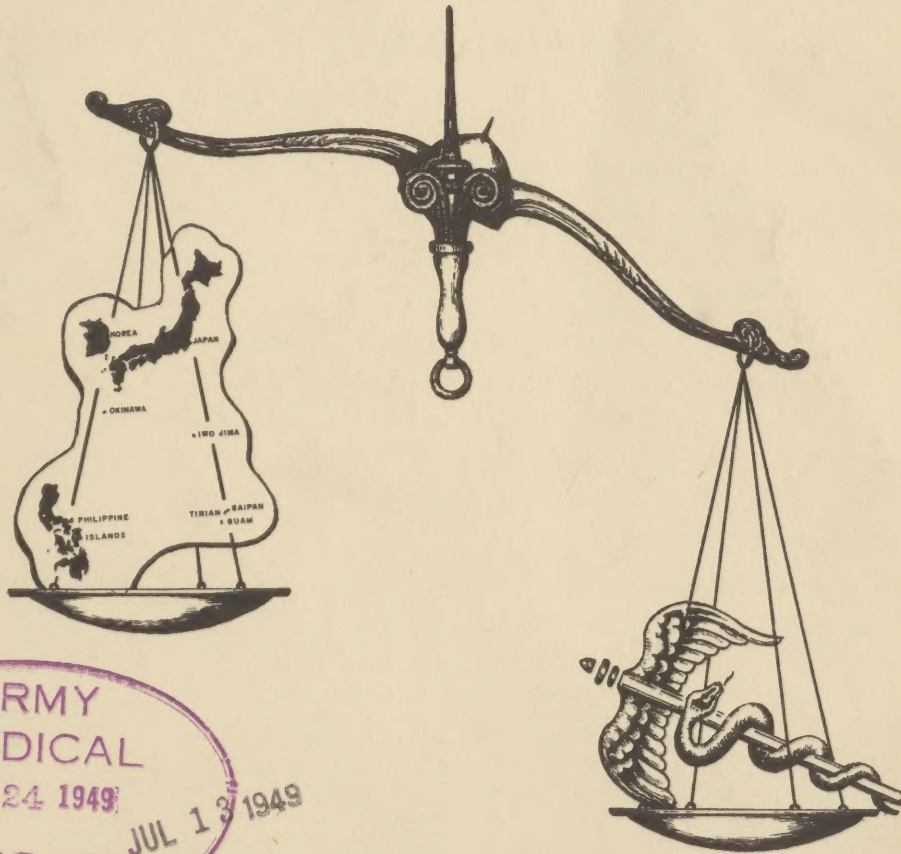
DOCUMENT SECTION

INDEXED

MED. SEC. GHQ. FEC.

DOCUMENT SECTION

VOL IV NO 5
1 MAY 1949



A FAR EAST PERIODICAL OF MEDICAL DEPARTMENT INFORMATION

SURGEON'S CIRCULAR LETTER

RESTRICTED

Psychiatric	11	13	13	2.9	14	10
Common Respiratory Disease	88	120	79	30	69	7.4
Influenza	1.6	1.9	5.8	1.2	.60	0
Primary Atypical Pneumonia	5.3	6.4	4.3	4.1	.60	6.2
Common Diarrhea	3.2	1.6	8.6	1.2	13	.62
Bacillary Dysentery	.63	0	0	0	5.4	0
Amebic Dysentery	.78	.12	0	0	5.4	.62
Malaria	1.3	0	0	0	7.3	3.7
Infectious Hepatitis	3.7	3.9	10	1.2	4.8	1.9
Mycotic Dermatoses	4.7	6.2	0	5.3	1.8	1.2
Rheumatic Fever	1.7	2.1	2.9	0	1.8	.62
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FAR EAST COMMAND
MEDICAL SECTION

SURGEON'S CIRCULAR LETTER

APO 500

NUMBER. 5

1 May 1949

PART I

ADMINISTRATIVE

SUBJECT

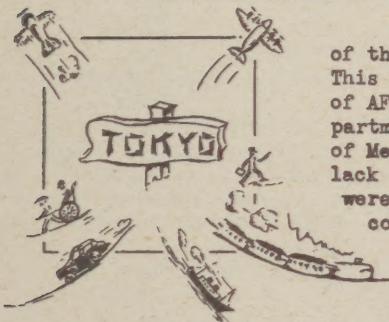
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I. Organization of the Medical Section

Arrival in the Medical Section, General Headquarters, Far East Command: Lt. Colonel Charles Raulerson, MSC, from the zone of interior, has been assigned to the Personnel Division.

II. FEC Conference of Major Command Surgeons Ends



A conference of the major command surgeons and senior medical officers of the Army, Navy and Air Forces was held from 4 April through 8 April 1949. This was the fourth conference of surgeons held in Tokyo since the formation of AFFAC Headquarters in 1945. The meeting was held to consider Medical Department problems in the Far East Command. The problems of limited numbers of Medical Corps personnel, insufficient numbers of medical specialists and lack of well-trained and seasoned enlisted replacements to fill key positions were stressed. At the same time, it was brought to the attention of the conferees that during 1949 our service would be faced with a problem of ever-increasing commitments for the medical care of dependents, civilian employees, civilian contractors and other miscellaneous groups. An additional complicating factor was the difficulty inherent in the management of our hospital plants due to obsolete equipment, difficulty in obtaining maintenance, curtailment of funds and deterioration of buildings.

In order to more quickly solve present and future problems, the officers at the conference were instructed by General Bethea of the need for developing a tighter working arrangement between all elements of the Medical Department and the other elements of military service. Further, in the interest of our medical service, it was stressed the Medical Department must work closely with the Navy and Public Health and Welfare Services and close cooperation with the medical elements of the Air Force must continue.

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SPEAKERS

First Day, Monday, 4 April 1949

Major General Doyle O. Hickey, Deputy Chief of Staff, Far East Command
 Major General J. M. Weikert, Chief of Staff, Far East Air Forces
 Brigadier General W. A. Beiderlinden, Assistant Chief of Staff, G-1, Far East Command
 Brigadier General Ward H. Maris, Assistant Chief of Staff, G-3, Far East Command
 Colonel H. E. Eastwood, Assistant Chief of Staff, G-4, Far East Command
 Major General C. A. Willoughby, Assistant Chief of Staff, G-2, Far East Command
 Address by Major General James A. Bethea, Surgeon, Far East Command
 Colonel Robert J. Platt, MC, Surgeon, Far East Air Forces - "Medical Service and Medical Problems of the Far East Air Forces"
 Colonel Reuel E. Hewitt, MC, Surgeon, Eighth Army - "Medical Service in Eighth Army"
 Lt. Colonel W. A. Emond, MSC, Director, Personnel Division, Medical Section, GHQ, FEC - "Personnel Problems", and "Processing of RA Applicants" by Capt. V. H. Loisel, MSC, Deputy Director

Second Day, Tuesday, 5 April 1949

Colonel Robert E. Blount, MC, Medical Consultant, Far East Command - "Medical Service"
 Lt. Colonel Furman L. Foster, MC, Surgeon, Far East Air Materiel Command - "Medical Problems and Medical Services at Far East Air Materiel Command"
 Colonel George NMI Horsfall, MC, Surgeon, Marianas-Bonins Command - "Medical Service in MARBO"
 Lt. Colonel Everett W. Partin, MSC, Director, Supply & Fiscal Division, Medical Section, GHQ, FEC, "Supply and Fiscal Activities"
 Lt. Colonel Joseph T. Caples, MC, Surgeon, U.S. Army Forces in Korea - "Medical Service in Korea, 1949"
 Colonel Clarence A. Tinsman, MC, Surgeon, 13th Air Force - "Medical Problems in the 13th Air Force"
 Major Mildred I. Clark, ANC, Chief Nurse, Far East Command - "Nursing Service"
 Captain J. B. Butler, MC (USN), Senior Medical Officer, Fleet Activities, Far East - "Navy Medical Service, Japan"

Third Day, Wednesday, 6 April 1949

Lt. Colonel Harlan H. Taylor, MC, Surgical Consultant, Far East Command - "Surgical Service"
 Colonel Thair C. Rich, MC, Surgeon, Ryukyus Command - "The Medical Service and Medical Problems of the Ryukyus Command"
 Colonel Charles P. Ward, MC, Surgeon, Hq & Sv Gp, GHQ, FEC - "Medical Service for Headquarters and Service Group, GHQ, FEC"
 Lt. Colonel Arthur P. Long, MC, Preventive Medicine Consultant, Far East Command - "Status of Health in the Far East"

Fourth Day, Thursday, 7 April 1949

Colonel M. A. Sanderson, DC, Dental Surgeon, Far East Command - "Dental Service"
 Major Walter F. Hein, MC, Surgeon, 20th Air Force - "Medical Activities of Air Force Commands on Island of Guam"
 Colonel F. W. Staiger, CE, Chief R&U Div., Engr Sec., GHQ, FEC - "Repairs and Utilities in Relation to Medical Corps Activities"
 Captain Edward P. Kunkel, MC (USN), Senior Medical Officer, U.S. Navy Medical Center, Guam, M.I. - "Navy Medical Service, Guam and Trust Territories"
 Lt. Colonel Stuart P. Vandeviere, MC, Surgeon, 18th Fighter Wing - "Medical Service and Medical Problems Within the 18th Fighter Wing"
 Colonel I. R. Pollard, VC, Veterinary Consultant, Far East Command - "Veterinary Service"

Fifth Day, Friday, 8 April 1949

Captain James D. Grindell, MSC, P&O Division, Medical Section, GHQ, FEC - "Administration and Patient's Charges"
 Colonel Theodore C. Bedwell, MC, Surgeon, 5th Air Force - "Medical Service and Medical Problems of the Fifth Air Force"
 Colonel Howland A. Gibson, MC, Surgeon, Philippines Command - "The Medical Service and Medical Problems of the Philippines Command"

III. Temporary Promotion for First Lieutenants, MC, DC and VC Officers

On or about 16 May 1949, the Surgeon General will convene a selection board UP AR 605-12, dated 30 September 1948, to consider for temporary promotion to grade of Captain in AUS all regular and non-regular 1st Lieutenants of the Medical Corps, Dental Corps and Veterinary Corps who entered on current tour of active duty between 1 January 1948 and 1 August 1948, including those who will complete 12 months in grade by 1 August 1949 and who have not less than 6 months active duty to serve after 10 March 1949.

IV. Army Medical Strength

Critically short of adequate doctors and dentists, officials said this week that the budgetary limit of 677,000 on the strength of the Army will not eliminate the need for additional medical and dental officers. In fact, it is declared that draft legislation still may be needed to secure enough doctors and dentists to insure the health of the Army. During recent months, more medical officers have been leaving the Army for civilian practices than are signing up for service. In short, the Army doesn't have enough doctors and dentists now. It will need less medical officers than has been announced heretofore if the strength limitation remains at 677,000, as proposed in the President's budget.

Maj. General Raymond W. Bliss, Army Surgeon General, was named as chairman of a campaign committee to obtain physicians and dentists for volunteer service with the Armed Forces. Other members are Rear Adm. Clifford A. Swanson, Navy Surgeon General, and Maj. Gen. Malcolm C. Grow, Air Surgeon.

Prime target of the campaign will be the 18,000 young men who received all or part of their medical and dental training as members of the ASTP and V-12 Programs. If the campaign is successful, officials relate, there will be no need for a draft of doctors and dentists.

V. Publication on Zoology

Colonel George W. Hunter, III, Chief of Section, Medical Zoology, 406th Medical General Laboratory, Tokyo, Japan, as joint author, recently published a text entitled "College Zoology".

VI. Army Dental Intern Program



Fifty dental internships, beginning 1 August 1949 and terminating 31 July 1950, will be provided in Army Teaching General Hospitals, it was recently announced by Maj. General Thomas L. Smith, Chief of the Army Dental Corps. The internships, he stated, are of the rotating type, including instruction in oral diagnosis, operative dentistry, oral surgery, prosthetics, and periodontia.

Applications for dental internships will be extended to citizens of the United States who are completing their senior year of dental training, are less than 31 years of age as of 1 August of the year application is made, who have made no agreement to accept an internship elsewhere, and who are physically qualified for the Regular Army.

Dental interns will be appointed first lieutenants in the Dental Corps Reserve and will receive the pay and allowances of that grade during internship. Their reserve commission will remain in effect for a period of five years including the internship unless a resignation from this status is accepted by the Department of the Army.

VII. Women Attend Training Courses for WMSC Duties

Maj. General Raymond W. Bliss, Army Surgeon General, has announced that courses will begin in September this year to train applicants for appointment in the Women's Medical Specialist Corps of the Regular Army.

The training program will include a Physical Therapy Training Course, an Occupational Therapy Clinical Affiliation and a Dietetic Internship. All candidates will be given a two-months' basic training course at Brooke Army Medical Center prior to beginning instruction in their specialties.

VIII. Reorganize Army Hospitals

Plans to stream-line wartime military hospitals in overseas commands to conserve personnel in scarce categories have been revealed by the Office of the Surgeon General.

Under the plan, the "professional complement" of the hospital will not join the unit until the last practical moment. During World War II, doctors complained that they were attached to units many months before the hospitals were functioning overseas. This, they said, resulted in a waste of manpower.

Now, it is expected that after field tests are completed, more units consisting of equipment and administrative personnel will be created than those with professional complements. It is planned that the doctors, dentists and nurses, once their duties in a hospital have been completed and the patients evacuated, will move as a team to another hospital unit which has been made ready in a more forward area of the combat zone.

IX. Major General Raymond W. Bliss Announces New Aid for Seasickness

The Army Medical Department, working with civilian researchers, has developed a new drug, "Dramamine", that acts both as a remedy and a preventive for seasickness. Maj. Gen. Raymond W. Bliss, Army Surgeon General, gave credit for the original research to Dr. Leslie N. Gay, of the Protein Clinic of Johns Hopkins University, Baltimore, who first began research on the drug in 1947, and Dr. Paul Carliner, also of Johns Hopkins.

The Army became greatly interested in preventives and cures for seasickness during World War II when the matter of transporting great numbers of men by sea and air and landing them in excellent physical condition became a major military problem. Many drugs were used during the war in an attempt to control seasickness symptoms.

All previous pre-Dramamine remedies had been combinations of various drugs, such as scopolamine, or one of the barbiturate preparations. Dramamine is a single chemical which is believed to have a direct effect on the vomiting center in the brain. It is a member of the chemical family of benadryl and pyribenzamine, which are used in the treatment of certain allergic conditions. Almost total cure or prevention of seasickness was obtained during experiments recently completed among troops aboard an Army transport in heavy seas.

Future plans call for broadening of experiments with Dramamine to include such means of travel as landing craft, small boats and aircraft.

The complete technical, esteric name of Dramamine is beta-diaminoethyl benzohydryl ether 8-chlorotheophyllinate.

X. Brain X-Ray Machine

Dr. J. M. Sanchez-Perez recently demonstrated the use of his newly invented X-Ray machine in a brain operation at the National Naval Medical Center, Bethesda, Maryland.

The machine, called the Sanchez-Perez Multimatic Seriograph, for the first time makes it possible to locate disturbances in the heart, brain, and blood ascular system, taking six photographs in four and one-half seconds. It is the result of 15 years of research and experiments by Dr. Perez who has been on the staff of the University of California Medical School since 1942.

XI. Isotope Laboratory at Army Medical Center

At opening ceremonies at the Army Medical Department Research and Graduate School on 4 March, Maj. Gen. Raymond W. Bliss, Surgeon General of the Army, announced that the first fully equipped radio-isotope laboratory of the Medical Department of the Army has been established at the AMDR&GS, Army Medical Center, Washington, D.C. He said:

"This is but one part, of course, of the total research and teaching program at that institution and represents our determination to make this institution into one of the finest in the medical scientific field. Of course, equipment alone cannot make an institution, and we are fortunate in having scientists available in the Service who can utilize the facilities of this laboratory to the utmost. As a part of our career training program we have other individuals in training in governmental and civilian institutions who are preparing themselves for careers in the study of the biological aspects of this new field in fundamental science.

"I congratulate the people who were concerned with the development of this fine laboratory and wish for it an ever-increasing ability to contribute to our knowledge in this vital field."

(ED's NOTE: The Army has banned the use of radio-active isotopes and other dangerous new chemicals such as the nitrogen mustards, either experimentally or as therapeutic agents, unless specific clearance is obtained from the Surgeon General. Only those installations where well-trained and experienced personnel and adequate technical supervision are available will be approved for the use of these agents. Requests for radio-active isotopes will be cleared through the Surgeon General before being submitted to the Atomic Energy Commission.)

XII. Biological Warfare

The following information on Biological Warfare now is unclassified and releasable, and is substituted for the paragraph on the same subject in the Policy Book for Army Public Information Officers, June 1948 edition, page 12 -- reference may be made to AG Letter, AGAO-S 381 (1 Dec 1948) CSGPO-W, dated 14 December 1948:

- a. General non-technical information as to the character of B.W. for purposes of orientation;
- b. Broad interests, relationships, and responsibilities of non-military agencies such as U.S. Public Health Service, U.S. Department of Agriculture, and the American Red Cross on general problems of defense against B.W.;
- c. Technical and research data that are not of direct or immediate military application but are of interest and use to the arts, science, and industry. Subject to obtaining the permission of the National Defense agency concerned, such data may be published in technical and scientific journals, by including the name of the author and of the establishment where the work is done. For example, data presented as being gathered in the normal course of non-military scientific research, and data dealing with problems concerning natural forms of disease;
- d. The existence of presently established B.W. installations and organizations, the recognition of the possibility of that type of warfare, the general character of possible defensive measures and recognition of the need for defensive training;
- e. Protective apparatus, devices, and clothing;
- f. General protective measures applicable to B.W.

The following is Classified and not releasable:

- a. All references to any military aspects of B.W. not specifically covered in paragraphs "a" through "f"; all references to military operational policies dealing with offensive or defensive uses of B.W., manufacturing processes, descriptions or identifications of military agents, methods of dissemination, scientific developments and plans, research casualties, rosters, and tables of organization of B.W. installations and organizations, etc.

Security classifications for field trials carried out at places other than permanent B.W.

research establishments will be the subject of special provisions by the agency charged with the conduct of the operation, in conformity with the terms of the AG Letter cited in the first paragraph.

XIII. Discolored Procaine Hydrochloride Ampules

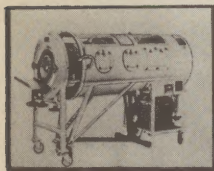
The following information concerning discolored ampules of procaine-epinephrine anesthetic solution is taken from a report on the subject published by the Medical Research and Development Board, Office of the Surgeon General, 1 October to 31 December 1948.

Inspection of 4,240 tubes * * * * showed 2,015 to be discolored. Samples were taken from this group and the pH checked. In a random sample of 20 discolored tubes dated 14 April 1944, seven were found to have a pH lower than 3.5; and in a sample of 20 clear tubes of the same date, only one was found to have a pH lower than 3.5 - 3.48. Only one other tube among the samples examined was found to have a pH below A.G.A. specifications, and it was a discolored tube packaged 4 April 1944. Variations in pH showed no correlation with the degree of discoloration.

In tests to determine the anesthetic efficiency of the discolored solutions, gold fish and human subjects were used. It was found that the fish could be anesthetized in the discolored solutions as well as in fresh solutions after proper adjustment of the pH. Satisfactory anesthesia was obtained on humans using intradermal injections and subdermal infiltration of the gingiva. No toxic symptoms were noted, and all solutions, no matter how dark the color, gave anesthesia. There was a difference in duration of anesthesia, depending on the degree of discoloration; the very darkest solutions produced anesthesia of a time duration similar to that of procaine containing no epinephrine.

From the results of these studies it would appear that epinephrine is a necessary adjunct to procaine anesthetics in dental surgery and that discolored solutions will produce anesthesia with a duration somewhat proportional to the degree of discoloration; that no toxic reactions due to discoloration of the solutions should be expected; and that the only danger which might be encountered would be a pH value below the minimum of 3.5.

XIV. Care of the Respirator Machine by Carmelita Calderwood, R.N., from the publication "The National Foundation for Infantile Paralysis, Inc.", #49



The respirator deserves good care. It should be stored in an easily-accessible spot for quick moving. The casters should be tested frequently to see that moving the machine can be accomplished without difficulty.

The tank should be kept clean with soap and water and an occasional airing. Care should be taken, however, not to get water into the bellows chamber or into the control valve tubing. Alcohol should never be used to clean the tank or windows.

The bellows should be fully opened when the respirator is not in use. In the collapsed stage, considerable deterioration may take place at the folds. Otherwise the bellows needs no special attention. The diaphragm of the Emerson machine should be wiped with neat's foot oil once yearly, but no other oil should be allowed to come in contact with it or deterioration may occur.

Once a year the respirator should be checked by an expert. A new sealing gasket should be cemented into the head of the machine at this time. This is an important item and should not be overlooked. This gasket is vitally necessary to insure an airtight tank.

Manufacturers of respirators issue specific directions for the care of their machines. THESE INSTRUCTIONS SHOULD BE PLACED IN THE HANDS OF THE HOSPITAL ENGINEER WHO MUST ASSUME RESPONSIBILITY FOR SUPERVISING THE OPERATION AND CARE OF THE MACHINE AT ALL TIMES.

Rubber collar and port cuffs must be inspected frequently. This is particularly true where sponge rubber is the material in use for this purpose. Constant contact with the metal of the machine tends to rot the rubber. In some hospitals it is the custom to remove the collar and keep it inside the machine on the cot when it is not in use since collar-openings vary in diameter and must be changed according to the size of the patient who will be using the machine. Because of wartime shortages, it is recommended that all rubber parts be removed from the machine, properly labeled, and stored at a low temperature in a refrigerator. If this is not done screws holding the cuffs to the ports should

be loosened to lessen deterioration of the rubber from pressure when the machine is not in use. It must NEVER be forgotten that the rubber cuffs and collar MUST be in a good condition or it will not be possible to secure sufficient vacuum inside the machine. In an emergency this can be a matter of the greatest seriousness. An extra set of collars and cuffs should always be available.

(ED's NOTE: Reference is made to Surgeon's Circular Letter, 1 February 1949, for an article on "The Use of the Respirator in Poliomyelitis".)

XV. Restrict Ambulance Usage

The Army and Air Force have directed, in SR 700-105-50 -- AFR 160-7, that ambulances be used only for the following purposes: (1) Transportation of sick and wounded together with attendants; (2) Recreation of convalescent patients; (3) Instruction of Medical Department personnel in ambulance service duties; (4) Official transportation, in the field, of Medical personnel and supplies; in garrison, for transportation of Medical personnel from their quarters to places of employment when necessary in emergencies and in the absence of other suitable transportation.

XVI. Army-Navy Medical Procurement Office

The official designation of the Army-Navy Medical Procurement Office has been changed to Armed Services Medical Procurement Agency. Location of the Brooklyn agency, which is responsible for the central procurement of medical supplies for the Army, Navy, Air Force, and certain foreign aid programs, at 84 Sands Street, Brooklyn, N.Y., remains unchanged.

The redesignation is in connection with the recent establishment of the Armed Services Medical Procurement Board by the Secretaries of the Army, Navy, and Air Force under which the procurement agency directly operates.

Items which are within the procurement scope of ASMPA, as the agency is known in abbreviated form, include drugs, chemicals, biologicals, dental and surgical dressings and instruments, hospital and laboratory equipment, optical, X-ray, and physio-therapy items, occupational therapy and prosthesis appliances, and technical books and journals.

The agency is administering a \$50,000,000 medical purchasing program for the current fiscal year.

XVII. Recent Department of the Army and FEC Publications



CIR 25, DA, 25 Feb 49, Appointment of Warrant Officers (jg) for the Unit Administrator Career Warrant. Par 6. Physical Examination

CIR 26, DA, 1 Mar 49, Sec I, Appointment of Professional and Technical Experts or Specialists in Officers' Reserve Corps, Par 8, DA Cir 210, 1948, Changed

CIR 27, DA, 1 Mar 49, Inventory of Refrigeration Equipment

TB MED 231, 18 Mar 49, Change 1, Prevention of Spread of Tuberculosis in Army and Air Force Hospitals. Par. 5c(1)(c) partially rescinded

SR 345-105-1, 3 Feb 49, Historical Report

SR 325-10-1, 7 Feb 49, List of Approved Recurring Reports. Pages 70-73, Medical Reports

SR 40-590-50, 16 Feb 49, Medical Service - Donations of Cigarettes to Hospitals

SR 40-590-10, 24 Feb 49, Medical Service - Hospital Fund Limitations. 1. Net Working Capital.
2. Limitation on Food Inventory

SR 600-145-11, 2 Mar 49, Assignment of Hospital Patients

SR 40-590-43, 9 Mar 49, Medical Service - Admission and Treatment of Merchant Seamen in Medical

Facilities of the Department of the Army outside Continental United States

SR 40-590-42, 15 Mar 49, Medical Service - Admission and Treatment in Medical Facilities, Department of the Army, inside and outside Continental United States, of Personnel Entitled to Treatment at the Expense of the United States Public Health Service. Supersedes pars 6 h, i, j, k, and q; and 12a (1)(a) 18, 19, 20, 21, 22, 23, 24 and 25, and (b) 5, 6 and 10, AR 40-590, 21 Jan 46

SR 600-210-5, 16 Mar 49, Personnel - Identification Tags. Par 2 c Blood Types, Immunization

T/O&E 5-192, 19 Jan 49, Hqs and Hqs Co, Engineer Combat Group. Sec III, page 13, Medical

T/O&E 8-28, 31 Jan 49, Medical Clearing Company, Separate

T/O&E 5-312, 28 Jan 49, Hqs and Hqs Co, Engineer Construction Group

T/O&E 8-22, 31 Jan 49, Hqs and Hqs Detachment, Medical Group

T/O&E 3-25, 3 Mar 49, Chemical Mortar Battalion. Sec III

Medical Department Equipment List No. 5, Sept 48. Supersedes MED 10-5, 1 Nov 44 and Change 1

PART II

TECHNICAL

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XVIII. Japanese B Encephalitis



In the Surgeon's Circular Letter for April 1949 there was a brief reference to Japanese B Encephalitis and the control procedures to be applied during the coming seasons. Based on previous experience, if this disease occurs this year it may be expected during July, August and September in Japan, Okinawa and Korea, and in December and January in Guam.

Information was forwarded to all major commands by radio in March of this year concerning the contemplated program for the prevention and control of Japanese B Encephalitis. This information is reviewed here in order that all Medical Department officers in the Far East Command may be familiar with this program.

There is good evidence that Japanese B Encephalitis is transmitted by mosquitoes. Accordingly, mosquito control must be stressed as the primary procedure for the prevention of this disease. This control can be effective only through rigid application of area, unit and individual procedures, including larvaciding, adult mosquito control, screening, use of bed nets, and protective clothing and repellents. Special attention should be given to the protection of infants and young children from mosquitoes. The pertinent provisions of GHQ, FEC Circular No. 39, 9 October 48, are applicable to this program.

In addition to mosquito control, vaccination is to be accomplished as an additional preventive measure. The following personnel will be immunized in Japan, Korea and Okinawa during the time and periods indicated below:

- All military personnel of Army, Navy and Air Force.
- United States civilian employees.
- Dependents of above personnel on voluntary basis.
- British Forces, employees and dependents on voluntary basis.

Vaccinations on Okinawa are to begin not later than 1 May; in Japan, south of and including Osaka and Kyoto, on or about the 15th of May; and in the remainder of Japan and in Korea, on or about 1 June 49. Vaccination of personnel on Guam will not be accomplished until autumn.

The quantity of vaccine being made available by the Department of the Army though definitely limited should be adequate for the indicated needs if proper care in conservation procedures are practiced. Of particular importance is the maintenance of the proper storage and distribution temperature of 5°C (41°F). The vaccine is furnished in dry form. Instructions for rehydration furnished in the package should be carefully followed, remembering that the rehydrated material is particularly unstable, should be kept in the refrigerator when not in actual use and that all unused portions are to be discarded at the end of the day. Each ampule contains sufficient material for twenty doses and the scheduling of groups for vaccination and preparation of vaccine for use should be planned accordingly.

The rehydrated vaccine is administered for original immunization in three (3) doses of one (1) cc each, injected subcutaneously. The second dose is given one week after the first and the third, one month after the first. Persons receiving two or more doses of Japanese B vaccine previously should be given one dose of one (1) cc only, administered at the time other personnel in the area are receiving their third or final dose. Children less than six months of age are not to be given the vaccine and those between six months and one year should receive one-half of the adult dose at the discretion of the medical officer performing the immunization. Personnel departing from the theater prior to 1 July are not to be immunized. Japanese B vaccine is to be administered in the Far East Command only; hence individuals from the ZI will not have been vaccinated prior to arrival. Those arriving after 15 June will receive three doses at intervals of two to four days between doses. No Japanese B vaccine is to be given after 15 Sept except in Guam as previously noted. Transients, including crews of ships and aircraft are not to be vaccinated.

Since Japanese B vaccine is prepared by cultivation of the virus in eggs and contains a certain amount of egg and chicken protein, it should not be administered to those with a history of sensitivity to egg or chicken. Each person to be vaccinated should be asked the question, "do you eat egg and chicken?". If the answer is "no", the presence or absence of sensitivity should be determined by further questioning. If a state of sensitivity is considered to be present, a statement to that effect should be entered on the immunization register and the vaccine not administered. No skin tests with the vaccine for desensitization procedures should be attempted.

It is very important that proper records of vaccination be made on both the individual and record copy of the immunization register (WD AGO Form 8-117). AR 40-215 should be referred to for instructions in the entry of records and maintenance of the immunization register. The lot number of vaccine used should be entered on each immunization register.

XII. Possible Treatment of Sodium Monofluoroacetate (1080) Poisoning



Since there is no known antidote for sodium monofluoroacetate (1080) poisoning, it is believed that the following information may be of value. The patient, a 14-month old boy weighing 23 lbs, described below is the second known case who has exhibited any symptoms of sodium monofluoroacetate poisoning and has survived. The amount of poison ingested by this child is not known, but it seems certain that some poison was ingested since certain characteristic reactions were observed. The following information was abstracted from a letter written by the physician in charge of the case:

"I first saw Bill at - - - Hospital at 4:25 p.m., March 13. The parents stated that he had been found with a small paper cup containing rat poison. The poison was smeared over his face and hands. Their attention had been attracted to him because of a sucking noise which he had made. The solution was spread well over his lips. The mother grabbed the child washed his face and mouth with running water and then immediately brought him to the hospital. The parents estimated that he had taken the poison about fifteen minutes before we began washing his stomach. The father called the exterminating company while I was working with the lad and discovered that the solution was 1080.

"He was given a nembutal suppository (.032 gm) at 6 p.m. At 7:15 he was given 8 cc 100-proof whiskey mixed with water and sugar. The whiskey was repeated at hourly intervals during the night. The nembutal was given at three-hour intervals during the night. From 7:15 until 10 p.m. his pulse ranged between 80 and 96, his respiration was good and he slept very soundly. At 10 p.m. we noticed a slight muscular twitching gradually extended up the arms and the pulse went to 150. When the pulse reached 120 he was given .064 gm of sodium luminal intramuscularly and the site of

injection was massaged. About 8 minutes later he had a generalized convulsion in which he stiffened and his entire body jerked 4 or 5 times. Then he relaxed. The child was very restless for the next 15 or 20 minutes. His pulse dropped to 124 and then to 100. The pulse remained irregular and at 11:30 started to go up again. It rose to 120 and the twitching of his hands began again. The pulse rose rapidly at this time and the twitching developed into a generalized convulsion which lasted about one minute and recurred a minute later. The pulse at this time was 200. The generalized twitching recurred at frequent intervals for the next few minutes. The heart beat was exceedingly fast. Just before midnight he screamed and doubled up as though he were having severe abdominal pain. This lasted about 4 minutes.

"By midnight the condition had subsided. After this the pulse remained around 120 and quite irregular. He continued to have slight generalized twitching until 12:30. From then until 5 a.m. he slept soundly with no muscular twitching; his pulse stayed at 120. At 5, the pulse dropped to 100, and he awakened and was held by his mother for about 5 minutes. Then he dropped off to sleep again and was placed back in bed. From this time on he showed toxic manifestations of the barbiturates in that he would toss in his sleep, waken, scream out and become very difficult to keep in bed. The last nembutal was given at 6 a.m. His pulse dropped to 96 at 7 a.m. The whiskey was continued until noon. The pulse dropped to 88 at 8:30 and remained there the rest of the day except for periods when he would cry, at which time it would rise to 96 or 100.

"A urine specimen obtained the morning of March 14 was straw-colored, with pH. 7, and was negative for albumin, sugar, acetone, and bile. The microscopic examination was negative. The red blood cell count was 4.86. Hemoglobin was 81, color index .83. The leucocyte count was 10,050, with 1% staff cell, 21% segmented cells, 71% lymphocytes, 6% large monocytes, and 1% basophils.

"Bill was discharged from the hospital tonight (March 14), apparently normal but still very sleepy."

The following memorandum was prepared by Colonel John R. Wood, Chief, Medical Division, Army Chemical Center, following two telephone conversations, with the doctor in charge of the case described above:

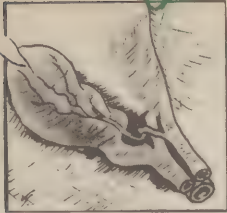
"At 6:50 p.m. on 13 March 1949, I received a telephone call from Dr. - - - - -. She stated that a 14-month old baby, weighing 23 lbs. drank a small cup of 1080 solution at about 4 p.m. The amount of solution in the cup was estimated to be about 15 cc. The solution had been left accidentally by a professional exterminator who had been using the solution in the house for the extermination of rats.

"Assuming the solution to be the usual strength, 1:256, a quick calculation indicated that he took a dose of about 6 mg/kg of 1080. However, some of the solution was smeared on the child's face and hair, indicating that he did not drink all of the solution.

"Dr. - - - - - requested advice on how to treat the case. She indicated that she had already used nembutal suppositories. She was advised to have ready in a syringe a solution of a quick-acting intravenous or intravascular barbiturate to reinforce the action of the nembutal when convulsions began. She was advised to give whiskey at frequent intervals by mouth to try to obtain a blood alcohol level of about 1.5 mg/cc, and to continue this for about 18 hours. She was advised to have ready a 1 or 2% solution of procaine in a hypodermic syringe and to use intracardiac injections of 0.5 to 1 cc of the procaine solution as an heroic measure in case of ventricular fibrillation. She was advised to watch the heart very closely after convulsions began and to be ready to deal on instant notice with convulsions and ventricular fibrillation.

"A second phone call was received at 12:45 p.m. on 14 March 1949. Dr. - - - - - reported that the baby had survived 20 hours. During this period it had suffered two severe convulsions. During the first, the heart rate increased to 160 per minute and became extremely irregular. During the second, the heart rate became too fast to count but was estimated to be a little over 200 per minute and extremely irregular. However, ventricular fibrillation did not occur. Both convulsive seizures were effectively controlled with a quick-acting barbiturate injected intramuscularly and massaged. The heart rate had declined to 80 per minute and was regular. She was advised to discontinue all medication but to continue to keep the baby quiet a few hours longer. Our experience with animals, including the Rhesus monkey, indicates that the crisis had passed and that the family might be reassured."

XX. "Jaundice" (An Unusual Case) from notes taken by Capt. W. D. Ralph, MC, at Eighth Army Medical Conference, 49th Medical General Hospital, Tokyo, Japan



CASE PRESENTATION: (Captain Dan Willoughby, MC)

This 18-year old while male soldier was admitted to a station hospital on 30 June 1948 because of fever, headache, chills, and sore throat that had been present for three days. There was continued right upper quadrant pain, aching in character, but not colicky. The patient observed no relief on change of position. Physical examination at that time revealed an acutely ill patient with temperature of 100.6 degrees. There was mild enlargement of the cervical lymph nodes and a moderately injected pharynx without exudate or membrane. Remainder of examination was normal. Laboratory work on admission showed WBC 6,900 with differential: neutrophils 60%, lymphocytes 31%, monocytes 9%. Urine was normal. A smear for malaria was thought to be positive, but was never confirmed. He continued to have a rise in temperature to 102-103 degrees daily and soon after admission he developed a suppurative tonsillitis and an otitis media. He was placed on atabrine because of the malaria smear that had been thought to be positive and received a total of 1.5 Grams of that drug. At the time of the appearance of the tonsillitis he was given penicillin which had no apparent effect on the fever. In a period of one week after admission he had developed a generalized lymphadenopathy and WBC showed total count of 6,700 with differential: 57% lymphs, 41% neutrophils, and 2% monocytes. Heterophile antibody titer was then 1:1792. During the second week of hospitalization he continued to have a daily fever although the throat improved and on the 15th hospital day he was noted for the first time to be jaundiced. Icterus Index was 57. The urine was positive for bile, and the total white count was 6,0950 with 52% lymphocytes. During the 3rd hospital week his temperature gradually fell to normal by lysis, but his icterus grew progressively more severe. A summary of laboratory work follows:

- 30th Hospital Day - Icterus Index 75. urine positive for bile and negative for urobilinogen.
- 38th Hospital Day - Icterus Index 100. urine positive for bile and negative for urobilinogen. Heterophile titer 1:448. WBC 7,450 with differential: Seg 62%, Lymphocytes 37%, Monocytes 1%. Sedimentation rate 26 mm/hr.
- 44th Hospital Day - Icterus Index 85. Van den Bergh 13.8 mgm%. Alkaline phosphatase 27.3. Thymol turbidity 5 units. TSP 6.2 Gm/100 c.c
- 61st Hospital Day - Icterus Index 50. Van den Bergh 9 mgm/100 c.c. Alkaline phosphatase 11 units. Thymol turbidity 10 units. Heterophile Titer 1:28.
- 75th Hospital Day - Van den Bergh 4.3 mgm/100 c.c. Thymol turbidity 20 units. Cholesterol 310 mgm/100 c.c
- 90th Hospital Day - Icterus Index is recorded to 160.

On the 90th hospital day he was transferred to the 49th Medical General Hospital. Records recorded no liver size or statement referable to his peripheral adenopathy. He had been treated with rest in bed, high carbohydrate, high protein diet, some intravenous glucose and choline.

On admission patient was afebrile and had no complaints except pruritis. He was deeply jaundiced. No petechiae or spider angiomas were seen and only a few shotty cervical and axillary nodes were palpable. The liver was palpable three finger breaths below the costal margin in the epigastrium and four fb's in the right flank. It was firm, tender, and had a smooth edge. The spleen was not palpable and there was no evidence of abdominal fluid.

Laboratory studies: WBC 13,050 with a differential showing 56% Segs., 8% Stabs, 20% Lymphs, 9% Monocytes, 3% Eosinophiles and 4% Basophiles. Hemoglobin was 12.0 Grams/100 c.c. and ESR 25 mm/hr. Urine was positive for bile and positive for urobilinogen in 1:80 dilution. Icterus Index was 30, and Van den Bergh 20.8 mgm/100 c.c. Thymol turbidity 0.8 units. Alkaline phosphatase 11 units. NPN 24 mgm/100. Uric Acid 1.4 mgm/100. Chlorides 500 mgm/100. Cholesterol 251 mgm/100. TSP 6.0 Gm/100 c.c. with AG Ratio of 1.7. Stools were white, voluminous and foul smelling. Heterophile Titer: 1:28, Prothrombin Time: Normal.

He was placed on a high protein, high carbohydrate, normal fat diet and 1000 c.c. 5% glucose in distilled water twice daily. He took his diet well and his pruritis improved and then disappeared, on application of Lanolin, leaving him feeling well and without complaint. Serial blood chemistries showed a progressive but slow decrease in Van den Bergh but an increase in alkaline phosphatase. Urine was persistently positive both for bile and urobilinogen in dilution up to 1:120.

On the 100th hospital day his stools looked as though they contained bile. Sedimentation rate remained at 20-30mm/hr. On 120th hospital day, his icterus index was 27 and van den Bergh 4.9 mgm/100 c.c. Thymol turbidity 0.5 units. Alkaline phosphatase 20 units. Urine showed bile and urobilinogen present in a 1:80 dilution. A GI series was performed and was normal. Three attempts to visualize the gall-bladder using oral Priodax were unsuccessful. At this time the liver was palpable 1 cm. below the right costal margin in the mid-clavicular line.

On the 128th hospital day an operation was performed.

DISCUSSION: (Dr. W. J. Kerr, M.D., Civilian Consultant Internal Medicine)

This very interesting case is one of infectious mononucleosis without a doubt. Although no abnormal lymphocytes are reported the differential count is 57% lymphocytes at the acute stage. The heterophile agglutination titer is revealing. It is extra high. There is no other condition in which this occurs.

The picture is that of a young soldier whose prodromal symptoms, upper respiratory infection and sore throat, were non-specific and might have been caused by almost any disease. This is usual in mononucleosis. The blood count is in the usual range for this disease, but is not diagnostic. The large number of monocytes is consistent with malarial infection, but we can discard this diagnosis on the basis of negative smears. The febrile course is about as one would expect.

Jaundice occurs in 1 to 15% of cases of infectious mononucleosis at the end of the second week. Probably the liver is more often involved than we suspect. Punctures almost always reveal some degree of liver disease.

There was a gradual decline of heterophile agglutination titer but the jaundice persisted. The icteric index is unusually high when compared with reported cases of mononucleosis. The presence of bile and the absence of urobilinogen in the urine is the picture of obstructive jaundice and an extra-hepatic cause must be considered. In non-obstructive or hepatocellular jaundice the alkaline phosphatase rarely goes above 10 units. In this case it ranged around 10 to 11 except in two instances when it went a high as 27.

On supportive treatment the patient began to produce urobilinogen. Stools on the 100th day showed color. There was a gradual lessening of the jaundice, although the alkaline phosphatase remained high.

The Graham test was unsuccessful. This could be due to biliary obstruction or to a faulty liver. Actually this test shows up the dye secreting ability of the liver as much as the function of the gallbladder.

In summary there was evidence at time of operation both for obstructive jaundice and for diffuse disease of the liver. At the 128th day there was still evidence of biliary cirrhosis. The jaundice of infectious mononucleosis usually lasts two weeks to one month, and rarely over three months.

My impression is that the patient had infectious mononucleosis with involvement of the liver. I cannot make the differential diagnosis between this and infectious hepatitis. In both pathological study shows lymphoid infiltration around the biliary spaces. There are biliary thrombi with some canalicular obstruction.

The outcome of this case is hard to predict. I cannot say whether or not such a case will subside into chronic biliary cirrhosis. What was the opinion of the house Staff?

DISCUSSION: (Capt. Dan Willoughby, MC)

We believed that the patient had hepatitis of the cholangiolitic type. We feared that he might go on to cirrhosis.

DISCUSSION: (Dr. J. R. Moore, Civilian Orthopedic Consultant)

The possibility of a common duct stone must be considered. In favor of this is the long standing right upper quadrant pain, the fluctuating jaundice, the lack of urinary urobilinogen, and the clay colored stools.

DISCUSSION: (Col. R. E. Blount, MC, Medical Consultant, GHQ, FEC)

It is impossible that the patient could have had a "Charcot Fever" for a stone. Many patients have pain with hepatitis. Against the diagnosis of a stone is the age of the patient and the close onset of the jaundice to other findings. This patient was due for evacuation but the delay in evacuation due to "Operation Vittles" and the feeling that a biopsy was urgently indicated, led us to request an exploration. The Medical Service felt he had prolonged, severe, hepatitis. It seemed a good omen that urinary uroglinogen excretion suddenly increased markedly. This appeared long before clinical improvement was noted.

DISCUSSION: (Dr. J. R. Moore, Civilian Orthopedic Consultant)

May I ask the surgical preoperative diagnosis. As a clinician once remarked, "One peek is worth two finesses".

DISCUSSION: (Col. Norman W. Anderson, MC, Chief Surgical Service, 49th Med Gen Hosp)

The surgical preoperative diagnosis was hepatitis. An exploratory laparotomy was performed because a prominent internist, who had recently visited this institution, felt that the patient had common duct obstruction. We valued his professional judgment very highly and therefore "took a peek" as Dr. Moore stated. The abdomen was entered through a right subcostal Kocher incision. The hepato-duodenal ligament covered approximately one half of the gallbladder which was released. The gallbladder appeared normal and emptied readily on light pressure. There were no nodes present about the cystic or common duct. The cystic duct and common duct were identified and appeared normal in size and consistency. The common duct was palpated through the Foramen Winslow. The common duct was aspirated for bile which was a normal golden-brown color. Diodrast was injected into the common duct after aspiration of bile but the x-ray films were not satisfactory. I did not feel that the pathology present, which appeared normal in every way warranted probing of the common duct. The liver appeared slightly paler than normal but its consistency on palpation was entirely normal. The patient had a smooth postoperative course.

DISCUSSION: (Col. R. E. Blount, MC, Medical Consultant, GHQ, FEC)

Some clinicians feel that peritonescopy with injection of dye into the gallbladder is of much help in cases like this.

DISCUSSION: (Dr. W. J. Kerr, MD, Civilian Consultant Internal Medicine)

Such a procedure might be possible and safe.

DISCUSSION OF PATHOLOGICAL SPECIMEN: (Lt. Col. R. S. Aronson, MC, Pathologist, 406th Med Gen Lab)

The pathology laboratory received an adequate slice of liver tissue 9 x 7 x 1 mm. This was subjected to hematoxylin-eosin and special stains.

Examination quickly ruled out Leishmania, Infection, Tumors, and Granulomas.

The hematoxylin-eosin stain revealed a normal liver capsule, not thickened as in cirrhosis. The parenchyma showed a few vacuoles filled with lipoid matter. The portal triad showed a diffuse infiltration with lymphocytes, monocytes, and a few neutrophils. There was slight change in appearance of the cells, showing extension of infection to the periphery of the lobules. The lobules were not distorted; the central veins remained in their normal positions. The slightly enlarged liver cells were of normal appearance for an ante-mortem specimen; the sinusoids were not seen. There was a moderate amount of bile pigment in the tissue. Occasional canaliculi were distended and filled with bile thrombi.

Wilder's reticulum stain revealed the thickened framework of liver well preserved. In infectious hepatitis the reticulum framework is preserved despite central necrosis. In this specimen there was no evidence of central necrosis. Regeneration of the lobules is usually complete within three months in hepatitis. This man may have had hepatitis three months ago. There was no malarial pigmentation.

The pathological diagnosis is organizing choleangiolitis with partly remaining intra-hepatic obstruction of an unidentified type. The slight increase in connective tissue is not sufficient to warrant a diagnosis of cirrhosis or even of early cirrhosis.

There is no pathological distinction between liver findings in infectious hepatitis and those of infectious mononucleosis. I know of one case of infectious mononucleosis in which the patient died of a ruptured spleen. There was focal necrosis of the liver lobules.

DISCUSSION: (Col. R. E. Blount, MC, Medical Consultant, GHQ, FEC)

We do not have facilities for punch biopsies here. Col. Smith, how much infectious hepatitis is there in the Japanese?

DISCUSSION: (Col. Smith, SCAP)

There is very little. Only one of my staff has ever seen a case. The others have seen none. The Japanese now get two thousand calories per day throughout Japan which may help protect them.

QUESTION: (Dr. J. R. Moore)

How much penicillin did the patient receive?

ANSWER: (Capt. Robbins)

He received 50,000 units q. 3 hours for 48 hours. It was discontinued because of no response.

QUESTION: (Medical Officer in Audience)

How should the high carbohydrate intake recommended for hepatitis be given? Some authorities discontinue intravenous glucose if the patient can take it by mouth. Others flood the patient with intravenous glucose, to rest the liver and prevent its manufacturing glycogen.

ANSWER: (Dr. W. J. Kerr)

I cannot answer that question with authority. In our clinic we give glucose by mouth as much as possible.

QUESTION: (Medical Officer in Audience)

Can Atabrine cause pathological changes similar to those found in hepatitis?

ANSWER: (Col. R. E. Blount)

That has never been proven. Atabrine can cause atypical Lichen Planus.

DISCUSSION: (Dr. W. J. Kerr)

In infectious mononucleosis pathological cells are found in the tissues as well as the cells. If they are no longer in the blood they cannot be found in the liver.

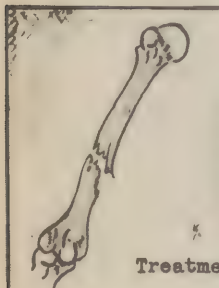
We do not know if the case today will progress to biliary cirrhosis. There is no evidence of it now. We can only wait to see if it develops.

XI. Use of 3% Ether-Saline Solution as a Vasodilator in Arterial Spasm following a Fracture of the Humerus, Medical Aspect presented by Capt. Ross H. Miller, MC, Chief of Surgical Service, 382nd Station Hospital, APO 235-1

Protocol Summary:

A white male soldier who had received an injury in which the left humerus was severely fractured. The fragments exerted sufficient pressure on the brachial artery to obstruct the blood supply causing discoloration of the left thumb and index finger, and a blanching of the entire hand. The pulse in the left hand was imperceptible and the hand was cold to touch. The patient complained of numbness of the entire arm. The distinguishing sign between actual severing and spasm is the fact that in spasm there is no evidence of hemorrhage or hematoma present.

Treatment:



RESTRICTED

Once the diagnosis of arterial spasm is made, the treatment consists of using every possible means of securing vasodilation of the artery in the affected extremity. If circulation is not established at a rather rapid speed, amputation is inevitable.

The drugs which were used in this particular case were papverine and ether-saline solution 3%. The ether solution was given intravenously until the spasm relaxed and remained so over a long enough period of time to enable the patient to be evacuated to Japan.

Ether-saline solution 3% 1000 cc was ordered to be administered at intervals of every eight hours. Papaverine Gm 0.065 (Gr 1) was ordered every four hours. Extreme care was taken to properly mix the ether solution and to keep it in a solution form. (The procedure of mixing the solution and administration will be discussed under nursing care.)

NURSING CARE:

General:

After the extremity has been immobilized, the patient is moved as little as possible. Omit complete bath until the danger stage is over. The least movement may stimulate spasm of the artery.

Careful and accurate recording of TPR.

Close observation of splints and traction.

Force fluids when awake.

Between treatments give special attention to buttocks and bony prominences to prevent decubitus since the patient is required to remain in same position for a long period of time while receiving the ether solution.

Procedure for administration of ether-saline solution intravenously (Demonstration of equipment)

Equipment necessary:

- (1) Can of new ether
- (2) 1000 cc Normal saline
- (3) Syringe, 30 cc
- (4) Tourniquets (2) (one to be used as a block for ice water drippings)
- (5) Intravenous set
- (6) Solution standard
- (7) Arm board
- (8) One #10 can with perforation in the bottom large enough for the neck of the saline bottle to pass through. The can is then lined with impervious material to help retain ice water.
- (9) Basin of cracked ice.
- (10) Small basin to catch ice water drippings.

Preparation of the solution:

- (1) Ether is insoluble in water at normal temperature.
- (2) It will mix readily at a temperature of 30-40 degrees F. The saline solution and ether are to be placed in the freezing compartment of the refrigerator for thirty minutes prior to time of mixing.
- (3) Mix solution and place flask in metal container, pack with ice.

Administration:

- (1) Constant attendance during the procedure.
- (2) Agitate the solution vigorously every ten minutes to prevent the ether from collecting on the surface of the saline.
- (3) The solution to be given very slowly. Administer 22-30 drops per minute.
- (4) Take pulse and respiration every half hour.
- (5) Take blood pressure every one hour.
- (6) Urine and blood count daily.
- (7) Keep solution well packed in ice.

Danger sign and symptoms (same as ether anesthetic)

- (1) Weak, thready pulse
- (2) Respiration shallow
- (3) Cynosis

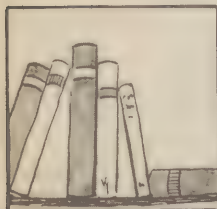
- (4) Drop in blood pressure.
- (5) Deep slumber.

Treatment for drug reaction:

- (1) First of all, discontinue intravenous and notify the doctor.
- (2) Keep patient warm
- (3) Shock position
- (4) Have the following emergency drugs on hand:
 - (a) Glucose 50%
 - (b) Caffeine Sodium benzoate
 - (c) Strychnine (hypo)
 - (d) Atropine

REFERENCES:

MILITARY SURGICAL MANUALS - Burns, Shock, Wound Healing, and Vascular Injuries.
 ELIASON, FERGUSON, and FARRAND - Surgical Nursing.

XXII. Some New Therapeutic Agents

The medical supply services of the Army and Navy have led in the supply field in the efforts to accomplish unification. The Army and Navy Catalog of Medical Material, first published in July of 1947, is representative of the progress that has been made. The joint supply services have been highly successful in keeping this supply catalog abreast of modern therapy. As fast as the value of new therapeutic agents becomes proven those that represent significant advances are almost invariably included as standard items.

If the effective therapeutic agents listed in this catalog are to be available in the places and in the quantities needed, when they are needed, the service physician and the medical supply officer must have a thorough working knowledge of the terminology used and of the new additions that are made to the catalog from time to time.

Too few physicians in the Far East seem to be aware of the fact that Cedilanid (Lanatoside "C") is listed not under digitalis but is listed as Lanatoside "C". The following is an incomplete, but an illustrative list of some of the newer as well as some not so newly standardized items, together with their trade names:

<u>SUPPLY CATALOG</u>	<u>TRADE NAME</u>
Amphetamine sulfate	Benzedrine
Calcium mandelate	Mandelic acid
Chloroquin diphosphate	Aralen
Diphenylhydantoin sodium	Dilantin
Iodopyracet Injection	Diodrast
Ergonovine maleate	Ergotrate
Ergotamine tartrate	Gynergen
Meperidine hydrochloride	Demerol
Mercurophylline injections	Mercupurin
Nikethamide	Coramine
Protein hydrolysate solution	Amigen
Quinacrine	Atabrine

Triasyn B	B Complex
Enzymatic hydrolysate of casein and port pancreas, powdered	Oral Amigen
Lymphogranuloma venereum antigen	Frei Antigen
Dihydromorphinone Hydrochloride	Dilaudid
Sodium racemic lactate 1/6 molar	1/6 molar lactate solution
Chlorohydroxyquinolone Ointment	Quinolor Compound Ointment
Anhydro-hydroxy-progesterone tablest	Progesterone
Menadione Tablets	Vitamin K
Mersalyl and Theophylline Injection	Salyrgan and Theophylline
Neostigmine Methylsulfate Injection	Prostigmine
Succinylsulfathiazole Tablets	Sulfasuxidine

In addition, the attention of all medical officers is invited to the fact that the following drugs are available as standard items:

Homatropine & Cocaine Hydrochloride, Ophthalmic Discs	Useful as an aid to bedside
Physostigmine Salicylate Ophthalmic Discs (Eserine)	ophthalmoscopic studies
Bal in Oil Ampuls	
Dicumarol (Difco thromboplastin is available as a non-standard item for prothrombin estimations)	
Digitoxin	Testosterone
Folic Acid	Diphtheria and Tetanus Toxoids, Alum precipitated, combined with pertusis vaccine
Heparin	Fibrin Foam and Thrombin, Human

During the past year and a half, several cases of gout have been seen in various hospitals. Colchicine, which is effective both diagnostically and therapeutically, had been found to be stocked in but two hospitals, although this has long been a standard item.

The following new penicillin products have been standardized and will soon be available:

Procaine Penicillin G, Crystalline, in Oil, with Aluminum monostearate
Procaine Penicillin G, Crystalline.

It is believed that the Army and Navy Catalog is worthy of study by every physician and surgeon in the Services. There is no question but that it is a definite and valuable adjunct to therapy, much as is the pharmacopoeia.

XXIII. Fevers of Obscure Origins by Capt Arnold L. Berenberg, MC,



A fair number of admissions to any hospital communicable disease section are fevers of undiagnosed origins. This paper is a discussion of some of those cases that were admitted to the 28th Station Hospital during the past winter, spring, summer and fall months. The hunt for the origin or the cause for such fevers is often a perplexing one. One should always first consider fever as an expression of the body's reaction to some particular disease. The problem is to diagnose the disease and in turn through specific therapeutic measures if possible return the abnormal temperature to a normal level. In this paper, I will make no attempt to discuss those fevers due to tumors, disorders of blood forming organs, to dehydration, fevers from drugs, or surgical causes. Rather I shall endeavor to limit myself to those due to some miscellaneous causes, and particularly those

due to specific infections.

The first and all important step in the diagnosis of any fever of obscure origin is to take

a careful and detailed history. In most instances it is certainly true that the patient himself will volunteer a characteristic description of some particular disease. Following the present illness, the past history, family history, and the system review are the next most important maneuvers in the process of ultimate diagnosis. This coupled with the physical examination and woven with supporting laboratory studies leads often to the solution as to where the focus of the infection resides.

In reviewing the admission and disposition records of this hospital from January to the month of November inclusive there were 77 cases admitted with a diagnosis or diagnoses of some undiagnosed condition manifested by some degree of fever. In all of these cases the problem existed as to where was the focus or what was the cause of the fever. The distribution, of these cases as per month is interesting. Of the 77 cases, 3 were admitted in January, 5 in February, 6 in March, 5 in April, only 1 in May, 6 in June, while there were 20 in July, 19 in August, 3 in September, 4 in October, and 5 in November. From the above group of cases it may be said that during the late winter and all of the spring months the problem as to what was the cause of a particular patient's temperature was most often easily apparent. However, with the onset of the warmer and more humid months in southern Honshu the problem grew more serious.

The degree of rise in temperature that accompanied the patient's admission to the hospital in the winter and spring months was not as great as during the summer months. For example in the month of January the highest degree of fever in an undiagnosed condition on admission was 101°F, while in February it was 101.6°F, in March 102.8°F, April 103°F, May 104.8°F, June 104.6°F, July 105°F, August 106°F, September 104.2°F, October 103°F, and November 103°F. The average temperature during the winter, spring and fall months thus was 101.9°F while the average temperature during the summer months was 103°F.

The complaints offered by the patients were numerous and varied. They ranged from nothing other than not feeling well and noting a fever to some specific complaint of pain in a particular region of the body, most often related to the respiratory system. The most common complaint among the low grade fevers what that "I just feel tired and all my bones and joints ache me". Among the patients admitted with higher temperatures ranging from 102°F to 106°F one of the most frequent complaints was having a headache.

During the winter and spring months there were 6 cases which showed a clinical picture of influenza. These patients complained that they suddenly developed a fever, became markedly prostrated and had severe aching pains in the back and extremities. On physical examination they showed nothing but moderately injected conjunctivae, hypertrophied, edematous, and inflamed nasal mucosae, and injected posterior pharyngeal walls. They all had fevers ranging from 99°F to 102.6°F. Their blood studies were all normal with either a normal white blood count or a leukopenia. These patients were given nothing except supportative therapy and bed rest. They all ran a typical course of uncomplicated influenza remaining afebrile and asymptomatic after the 4th or 5th hospital day. Although we were positive that these patients had influenza we were only able to discharge them with diagnoses of nasopharyngitis, pharyngitis, or bronchitis. These patients were well and at that time it seemed inadvisable and difficult to restrict them from duty until convalescent antibody titers were determined. Interestingly enough out of the 6 cases, 2 of the patients were sensitive to eggs and did not receive their influenza immunizations, 2 never received proper immunization through neglect, while the remaining 2 had supposedly received proper immunization.

During the winter and spring months there were only 6 cases admitted with indefinite prodromal symptoms of some of the exanthemata. This was interesting to us in that the greater percentage of the acute exanthemata were admitted when the disease had reached a stage when the diagnosis was already quite evident. Four of these 6 cases were chickenpox while the remaining 2 were measles. In addition 5 cases of measles were admitted during the prodromal period with diagnoses of "Observation for measles" where finally the disease did manifest itself.

Five patients were admitted with diagnoses of fevers of unknown etiologies that gave histories of easy fatigability and slight sore throats. It was noted that all of these patients had increased respiratory and pulse rates. Because the mild pharyngeal inflammation did not appear to be sufficient to be the cause of the abnormal temperature they were not given any specific therapy. However, they were watched closely and it was noted that they ran a consistent tachycardia with a white blood cell count ranging from 12,000 to 15,000. Further study and investigation revealed an elevated sedimentation rate and a prolonged P-R interval on the electrocardiographic tracing. All of these patients responded well to salicylate therapy with a return of the above values to the normal scale. The above cases, and I am sure many more could be cited are good examples why one should not treat or give any antipyretic compound before the focus of the infection has been discovered. I am sure that the final diagnoses of these five cases would have been prolonged or not made at all if salicylates had been given prior to the necessary diagnostic procedures.

Eight patients were admitted with complaints of anorexia and the suspicion of running an elevated afternoon temperature for a period of weeks. Four of these patients were civilian dependents and upon close questioning, they were found to have had intermittent episodes of diarrhea and all of them had lived in the Philippines. On physical examination they were found to have had evidence of a slight anemia, and abdominal and liver tenderness. Sigmoidoscopy on two revealed large bowel mucosal ulcerations and endameba histolytica. Attempts to isolate ameba in the other two patients failed. However both groups were treated with emetin hydrochloride and diodoquin and all made a very satisfactory recovery with complete disappearance of symptoms and signs. Four of the other patients were treated with srystoids. Following the clearance of the gastrointestinal tract of the parasites their temperature curves remained flat. Because many of our troops and dependents are in close contact with the Japanese and their food, parasitical intestinal infestation should always be investigated as the cause of an unknown fever.

Pulmonary infiltrations, particularly tuberculous lesions are very common causes of moderate elevations in temperature. No attempt has been made here to tabulate or discuss those due to tuberculosis since most of those records have accompanied the patients to the ZI and because most of the diagnoses were confirmed prior to the patient's admission to the hospital by means of routine chest films. However, it is an extremely common cause and should always be investigated. Thirteen cases were admitted with complaints only of general malaise. In the system review it was noted that they had a slight hacking non-productive cough and the belief that they had been running an elevation in temperature. Physical examinations were entirely negative. However, posterior-anterior views of the chest revealed pulmonary parenchymal infiltrations. Tentative diagnoses from the appearance of the X-ray films of atypical pneumonia were made. With bed rest and clearing of the pneumonic infiltration, the temperatures returned to normal, the general malaise and cough disappeared and the patients were returned to duty. It is not infrequent to find no physical signs in the thoracic cage with existing pathology due to tuberculosis or atypical pneumonia and so it becomes wise to employ the chest X-ray as a means of discovering the cause of the fever.

There were 2 patients in the month of June and 1 in September that were admitted with very similar histories. They had spent a strenuous day working in the hot sun, had then consumed a good amount of beer, and awakened in the middle of the evening experiencing a severe shaking chill. All of these patients gave histories of having soldiered in the South Pacific and having had malaria. In all of these patients plasmodium vivax was discovered on the thick blood smear.

During the months of July and August there were 13 patients who entered the hospital with temperatures ranging from 102-104.5 degrees F. Their chief complaints were severe throbbing headaches. On physical examination they appeared lethargic, had a mild amount of sinus tenderness usually in the frontal area, retroubular pain following pressure on the eye balls, and a moderately injected nasal muscea. Their white blood counts were only slightly elevated ranging in the vicinity of 9,000 to 11,800. On lumbar puncture they had normal pressures with normal cell counts and chemistries. X-rays of the sinuses showed only a small degree of clouding of one or more of the paranasal sinuses which one would postulate was not enough pathology to cause the degree of fever and symptoms. However after treating the patients with nose drops, usually neosynephrine, they all experienced a good deal of nasal drainage and their temperatures returned to normal and their headaches disappeared. From what we have noted at this hospital during those months, particularly, we would say that sinusitis probably of viral etiology is very often a hidden site for many a fever of unknown origin.

Nine of the cases of poliomyelitis that were admitted to this hospital first showed their manifestations as being primarily a problem of fever without any other positive physical findings. However, they soon developed to some degree back and neck rigidity or pain, and lumbar puncture with further clinical manifestations necessitated diagnoses of poliomyelitis. It cannot be stressed too strongly during the epidemic season of the year that each case of elevated temperature without any apparent cause should be closely investigated and followed as being possibly due to central nervous system disease.

Undulant fever is also a common cause of prolonged elevations in the temperature curve. We have one such case in which the organism was recovered in the blood stream and urine.

In 13 of our cases the cause for the elevation of temperature was never discovered. These patients were all studies with stool, urine, sputum, blood examinations and cultures. In addition all available skin tests and agglutinations were done. All of them were discharged only after their temperatures remained normal for at least 7 days. We believe that the above is not uncommon and that we were fortunate in encountering it on so few occasions.

Although the art of taking a temperature is a simple one, it can often lead to very false

impressions. We have noted in checking temperatures that often the mercury column has not been shaken down or that a patient's temperature has been taken orally after ingesting some warm fluids. One stockade patient found it to his advantage to be a hospital patient as long as possible so that at 1100 AM he produced an elevation in temperature by preceding the temperature examination with a cigarette. It should be stressed that in all patients who run fevers that their temperatures should be taken rectally. This is often a rule that many of us neglect.

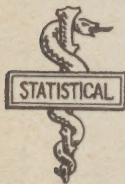
In summary we have discussed some of the cases of obscure fevers admitted to this hospital from January to December. They have been varied, but are similar to the causes found in other institutions, have occurred most often in the warm and humid months, and barring technical difficulties, and malingering the solution appeared to lie in the completeness of the history, physical examination, and laboratory study.

PART III

STATISTICAL

Evacuation:

1. Tabulated below are the number of patients evacuated from the major commands to the ZI during the four report weeks in February and the number of patients awaiting evacuation as of 25 February 1949:



	<u>BY AIR</u>	<u>BY WATER</u>	<u>TOTAL</u>	<u>PATIENTS AWAITING EVACUATION</u>
JAPAN	37*	176*	213*	93
MARBO	52	3	55	7
PHILCOM	18	5	23	13
RYCOM	13	4	17	15
FAR EAST COMMAND	120	188	308	128

* Includes 29 patients who originated in Korea.

2. During the four report weeks in February, 22 patients were evacuated from Korea to Japan, by air transportation, for further hospitalization and disposition or for onward evacuation to the ZI. As of 25 February 1949, 12 patients in Korea were awaiting evacuation to Japan.

3. Evacuations of military personnel per thousand strength for the period 29 January to 25 February were as follows:

JAPAN	1.5	PHILCOM	.88
KOREA	2.4	RYCOM	.76
MARBO	2.1	FEC	1.3

Hospitalization:

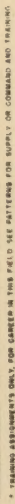
1. The bed status and the percent of T/O beds and established beds occupied as of 25 February were as follows:

	<u>Total T/O Beds Auth</u>	<u>Total T/O Beds Establ</u>	<u>Total T/O Beds Occup</u>	<u>% Auth T/O Beds Occup</u>	<u>% of Establ Beds Occupied</u>
JAPAN	4,650	4,680	2,610	56	56
KOREA	300	300	159	53	53
MARBO	800	562	238	30	42
PHILCOM	1,525	1,520	897	59	59
RYCOM	750	443	299	40	67
FEC	8,025	7,505	4,203	52	56

2. Admission rates per thousand troops per annum for the four week period ending 25 February 1949 were as follows:

	<u>FEC</u>	<u>JAPAN</u>	<u>KOREA</u>	<u>MARBO</u>	<u>PHILCOM</u>	<u>RYCOM</u>
All Causes	609	737	779	232	548	326
Disease	561	687	741	192	487	284
Injury	48	50	37	41	61	43

RETIREMENT
COLONEL



EDITORIAL MEMORANDUM



Major General Bethea extends an invitation to all personnel of the Medical Department to prepare and forward, with view to publication, articles of professional or administrative nature. It is assumed that editorial privilege is granted. Copy should be forwarded so as to reach the Medical Section, GHQ, FEC, not later than the 10th of the month preceding the issue in which publishing is desired.

Capt. Vincent I. Hack, Editor